

SR 162 Voight Creek Revegetation Site

HPA WDFW Log #: A1-F4040-01
Pierce County Case #: SD34-02
PLS Application #: 358385

Olympic Region

2008 MONITORING REPORT

Wetland Assessment and Monitoring Program

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Wetland Assessment and Monitoring Program Staff:

Author:

Doug Littauer

Editor:

Tony Bush

Contributors

Teri Fisher

Diana Martinez

For additional information about this report or the WSDOT Wetland Assessment and Monitoring Program, please contact:

Tony Bush, Wetland Assessment and Monitoring Program
WSDOT, Environmental Services Office
P. O. Box 47332, Olympia, WA 98504
Phone: 360-570-6640 E-mail: busht@wsdot.wa.gov

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General Site Information	
HPA WDFW Log No.	A1-F4040-01
Pierce County Case No.	SD34-02
PLS Application No.	358385
Revegetation Location	SR 162, approximately 1.5 miles east of the town of Orting, Pierce County
LLID Number	1221771470828
Construction Date	2005
Monitoring Period	2007-2010
Year of Monitoring	2 of 3
Area of Project Impact	0.82 acre
Type of Revegetation	Riparian Revegetation
Area of Revegetation	0.82 acre

Summary of Monitoring Results and Management Activities (2008)

Permit Requirements	2008 Results	Management Activities
Permit Requirement HPA #ST-F4040-01		
60% survival of planted woody species	100% survival	
Permit Requirement PLS #358385		
No more than 25% cover by invasive species	1% cover	Weed control

Report Introduction

This report summarizes second-year monitoring activities at the State Route (SR) 162 Voight Creek Revegetation Site. Included are a site description, the permit requirements, an explanation of monitoring methods, and an evaluation of site development. Vegetation monitoring activities occurred on August 4th, 2008 and included vegetation surveys and photo documentation.

What is the SR 162 Voight Creek Revegetation Site?

This 0.82-acre riparian revegetation site (Figure 1) is located on both sides of the Voight Creek Bridge on SR 162. The site was established to compensate for the loss of 0.82 acre of riparian vegetation due to the realignment and construction of a new bridge along SR 162. The realignment was designed to eliminate a reverse curve in the highway and improve sight distance.

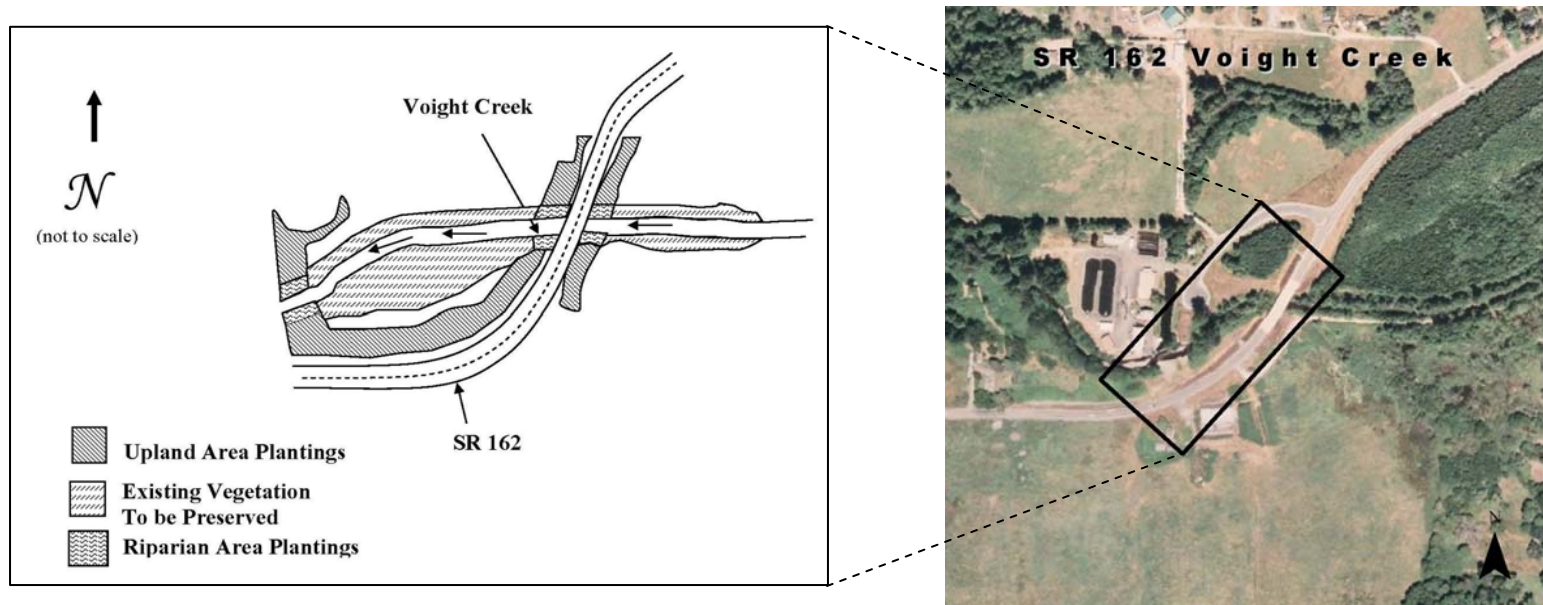


Figure 1 Site Sketch

The SR 162 Voight Creek Revegetation Site contains a diverse community of riparian and upland shrub and tree species.

What are the permit requirements for this site?

Permit Requirement 1

Vegetative plantings shall be maintained as necessary for three years to ensure 60 percent survival of woody species.

Permit Requirement 2

Planted areas shall be maintained and noxious weeds as defined by Washington Administrative Code shall be controlled throughout the monitoring period. Invasive vegetation shall not comprise greater than 25 percent cover, and shall not threaten the health, growth, or survival of plantings or desirable native vegetation.

Appendix 1 provides the complete text of the permit requirements for this project, and Appendix 2 shows the restoration (planting) plan (WSDOT 2004).

How were the permit requirements evaluated?

To evaluate the requirement for vegetative survival, plantings were identified to species and a total count of live and dead stems was completed (Permit Requirement 1). Survival calculations are based on the number of living plants observed compared to the total number of plants installed.

A qualitative estimate was used to evaluate the cover of invasive species (Permit Requirement 2).

For additional details on the methods, view the [WSDOT Wetland Mitigation Site Monitoring Methods Paper](#) (WSDOT 2008).

How is the site developing?

This riparian revegetation site continues to be developing well in many ways. The restoration site supports low cover of non-native invasive species, and woody species survival rates remain high. Planted trees and shrubs improve bank stability and provide habitat for small birds and mammals utilizing the Voight Creek riparian area.

Results from Permit Requirement 1
(60% survival of woody species):

Survival of planted woody species is approximately 100 percent based on a total count of live stems compared to planted quantities (Photo 1 and Appendix 2). The number of plants installed is 2,255. Field personnel counted at total of 2,253 living plants.

Results from Permit Requirement 2
(No more than 25% cover of invasive species):

Aerial cover of invasive species on the restoration site is qualitatively estimated to be one percent. This estimate is well below the 25 percent threshold. At present, invasive species do not appear to threaten the health, growth, or survival of plantings or desirable native vegetation.

What is planned for the site?

The site will continue to receive ongoing maintenance including weed control and replanting as necessary.



Photo 1
Survival of Woody Vegetation (August 2008)

Appendix 1 – Permit Requirements

The following excerpt is from the *WDFW HPA A1-F4040-01 and ST-4040-10 Condition*. Requirements addressed this year are identified in **bold** font.

Vegetative plantings shall be planted at a maximum interval of four feet (on center) and **maintained as necessary for three years to ensure 60 percent survival.**

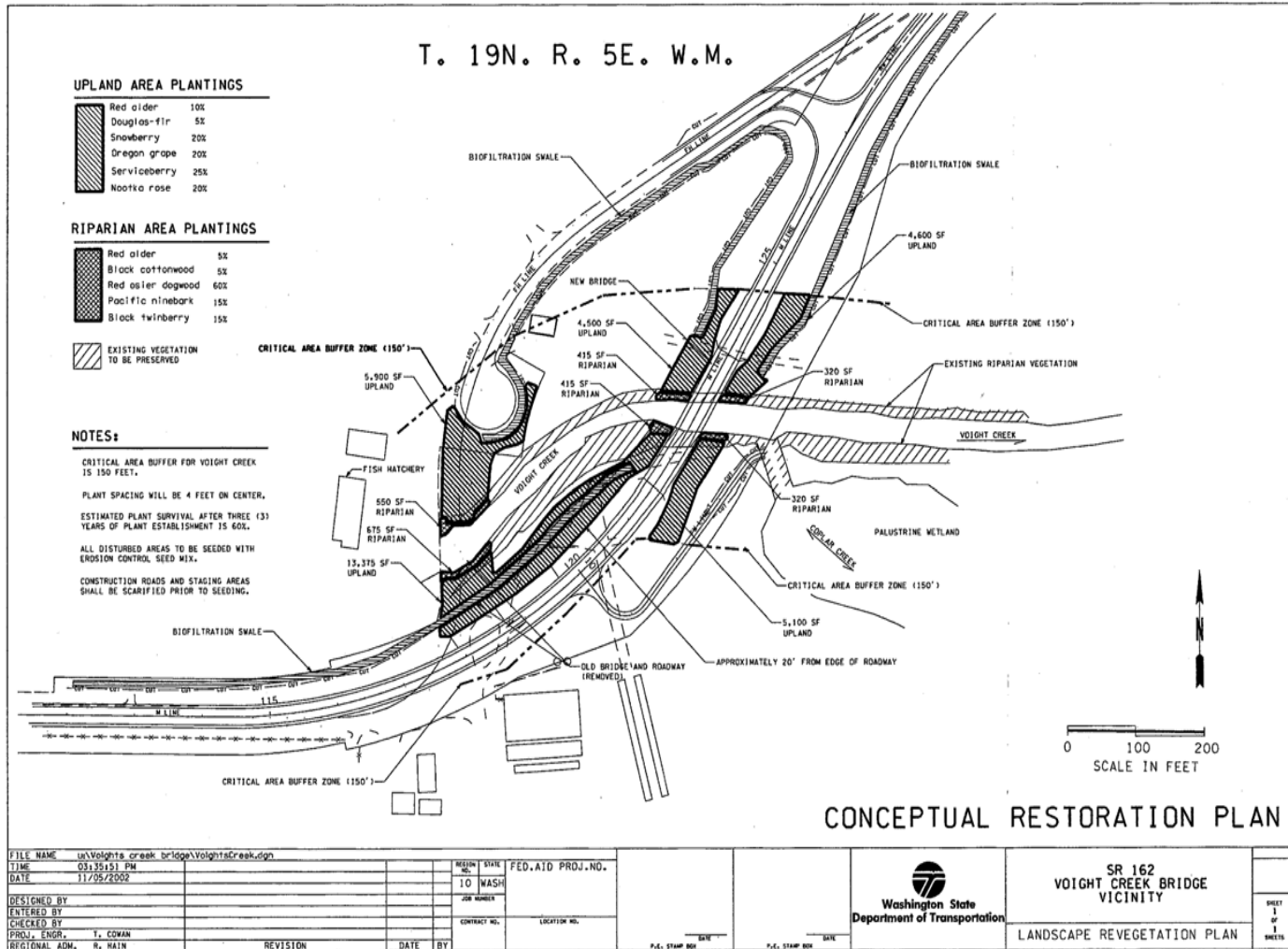
The following excerpt is from the Pierce County PLS Permit #358385 Conditions. Requirements addressed this year are identified in **bold** font.

- 1) The recorded Conditions of Wetland Approval and Site Plan shall be available on-site throughout project construction.
- 2) The WSDOT Project Office will contact Carla Vincent at Pierce County Planning and Land Services – Resource Management at (253) 798-2703 at least one week prior to project commencement.
- 3) The existing, unimproved road that parallels Voight Creek, used by Voight Creek Fish Hatchery personnel, shall be abandoned upon project completion. The roadbed shall be tilled and replanted or reseeded concurrently with mitigation plantings.
- 4) The new road to be constructed for Voight Creek Fish Hatchery personnel may be paved to 25 feet from the SR 162 centerline, per WSDOT Design Manual 920-5. The remainder of the road shall be gravel, and shall be no greater than 15 feet wide.
- 5) Mitigation for wetland and fish and wildlife buffer impacts shall follow the “Conceptual Restoration Plan/Landscape Revegetation Plan: SR 162”, prepared by WSDOT, dated February 26, 2003, with the following modifications and additions:
 - a) The project shall be considered successful, if **after three full growing seasons, 60% of the plantings survive**, and a Pierce County Environmental Biologist determines that an adequate density and diversity of native vegetation has established within the mitigation area, and **invasive non-native vegetation does not pose a threat to the survival of native vegetation.**
 - b) Disturbed areas shall be reseeded or otherwise stabilized within one week of project physical completion.
 - c) Planting shall occur in the first dormant season following project completion, and no later than March 1 following the physical completion of the project. Pierce County Resource Management shall be notified as soon as planting is completed.
 - d) All planted areas shall be regularly irrigated during the dry season, throughout the monitoring period.

- e) The planted areas shall be maintained and weeded regularly. **Noxious weeds, as defined by Washington Administrative Code, shall be regularly controlled throughout the monitoring period. Invasive vegetation, such as non-native blackberries, Scotch broom, and thistle, shall not comprise greater than 25% cover in the mitigation area at any time, AND shall not threaten the health, growth, or survival of plantings or desirable native vegetation.**
- f) **WSDOT shall monitor the site at least once each growing season within the three-year monitoring period. WSDOT shall send a report to the Pierce County Environmental Biologist by March 1 of the following year. The report shall describe plant health, percent survival, percent cover of noxious weeds or invasive vegetation, native vegetation establishment and any control measures WSDOT will use.**
- g) The responsibility to maintain and monitor the mitigation area shall be the responsibility of WSDOT or any subsequent owner(s) of parcels containing mitigation.
- h) If the mitigation fails, WSDOT or property owner(s) shall prepare a contingency plan for review by Planning and Land Services.

Appendix 2 – Conceptual Restoration Plan

(WSDOT 2002)



Literature Cited

1. Pierce County Planning and Land Services Permit #358385, Pierce County Case #: SD34-02
2. Washington State Department of Fish and Wildlife. 2002. Hydraulic Project Approval Log Number ST-F4040-01
3. Washington State Department of Transportation (WSDOT). 2002. Conceptual Restoration Plan/Landscape Revegetation Plan
4. Washington State Department of Transportation (WSDOT) WSDOT Wetland Mitigation Site Monitoring Methods (12 June 2008). <http://www.wsdot.wa.gov/NR/rdonlyres/C211AB59-D5A2-4AA2-8A76-3D9A77E01203/0/MethodsWhitePaper052004.pdf>